

m/47/007

EXECUTIVE SUMMARY

Revised 12/14/01

**This is a proposed permit revision to an existing approved mine plan.
The following information is intended to only apply to the proposed revision.**

Mine Name: Vernal Phosphate Operation
Operator: SF Phosphates Limited Company
9401 North Highway 191
Vernal, Utah 84078-7802

Telephone: (435) 789-2944
Contact Person: Chris McCourt

I.D. No.: M/047/007
County: Uintah
New/Existing: Existing - LMO Expansion
Mineral Ownership: Fee-Public Domain
Surface Ownership: Fee- Public Domain
Lease No.(s): N/A
Permit Term: Life of Mine

Life of Mine: 50 Years

Legal Description Portions of Sections 31 & 32, Township 2 South, Range 22 East, Section 36, Township 2 South, Range 21 East, Section 1, Township 3 South, Range 21 East, Sections 5 & 6, Township 3 South, Range 22 East.

Mineral(s) to be Mined: Expansion of existing phosphate tailings disposal area.

Acres to be Disturbed: 226 acres of private and BLM managed lands (23.8 acres BLM & 202.2 acres private). This acreage will be in addition to a 365 acre tailings disposal area which was previously permitted.

Present Land Use: Wildlife, Grazing & Mining

Postmining Land Use: Wildlife, Grazing & Mining

Variances from Reclamation Standards (Rule R647) Granted: R647-4-107.5 – Topsoil Removal & Storage: The native soils are neither well developed nor productive & the tailings material will make a viable topsoil substitute.
R647-4-111-12 – Topsoil Redistribution: Because the tailings material will be used as a soil substitute, topsoil redistribution will not be necessary.

Soils and Geology

Soil Description: Gravelly loam-loam, moderately to strongly alkaline, well drained soil formed from residuum and colluvium from sedimentary and metamorphic rock.

pH: 6.6 – 8.5

Special Handling Problems: High erosion hazard

Geology Description: The Bedrock formations exposed in the project vicinity range from the Pennsylvanian Weber Quartzite to the Triassic Moenkopi Formation. The Weber Quartzite ranges in thickness from 1075 to 1275 feet and is comprised of medium-grained, cross-bedded sandstone and massively bedded, fine-grained quartzose sandstone. The Permian Park City Formation overlies the Weber Quartzite and ranges in thickness from 140 to 150 feet in the vicinity of the tailings area. Overlying the Moenkopi and cropping to the south is the Shinarump Conglomerate, a thin medium to coarse grained sandstone with quartzite pebbles. And the Chinle Formation which is comprised of red, variegated shale in the lower two-thirds and sandstone with thin red shale interbeds in the upper third.

Hydrology

Ground Water Description: The water table lies below the tailings area in the Weber Sandstone. Monitor wells located below the tailings dam are sampled semi-annually with no impact being detected to date.

Surface Water Description: All disturbed area runoff is directed via hydrologic structures into the tailings pond; settling basins are employed to locally control runoff from roads and from the areas of active mining. Seepage collection ponds are constructed below the tailings dam, with inflow pumped back to the tailings pond.

Water Monitoring Plan: Surface water samples are collected quarterly from 12 sites and groundwater is sampled semi-annually from 6 monitoring wells. An annual report will be supplied to the Division.

Ecology

Vegetation Type(s); Dominant Species: Sagebrush, pinyon, juniper, indian ricegrass

Percent Surrounding Vegetative Cover: 18 percent

Wildlife Concerns: Deer and elk winter range impact mitigated by transplanting shrubs to provide escape cover, and planting of species palatable to wildlife.

Surface Facilities: None

Mining and Reclamation Plan Summary:

During Operations: Tailings material will continue to be placed into the expanded impoundment area until the phosphate mine reserves have been exhausted. The existing tailings dam will be enlarged and raised in stages or lifts using established impoundment construction techniques, ultimately affecting the additional 226 acres of land. Because the impounded process waters will inundate the majority of the tailings surface area, concurrent reclamation activities will be limited. Some reclamation of the tailings disposal area is planned where practical during active operations of the impoundment. Test plots will be established to gain experience with direct revegetation of the tailings surface, and to determine the optimum mix of amendments for final reclamation.

After Operations: Vegetation in the form of a nurse crop will be established as the dewatering of the tails proceeds. Two to three years after the nurse crop seeding is completed, heavy equipment can be used to regrade the surface, till in the nurse crop, and then apply the final seed mix with appropriate amounts of fertilizer or mulch.

Surety

Amount: \$2,336,000 (Total surety estimate for entire mine complex)
Form: Surety – Travelers Casualty and Surety Company of America
Renewable Term: 2004